IN THE CLAIMS:

Claim 1 (currently amended): A pack-bonded, multiphase composite material for use in a cell of a battery, comprising:

at least two layers of a matrix material pack-bonded with at least one layer of a reinforcement material, the reinforcement material being substantially non-conductive, wherein fibers in said reinforcement material ~~is~~ are oriented in a pack-bonded direction and wherein said matrix material and said reinforcement material are chemically dissimilar.

Claim 2 (currently amended): The pack-bonded material as in claim 1, wherein said reinforcement material is uniformly dispersed upon a surface of one of said matrix materials.

Claim 3 (original): The pack-bonded material as in claim 1, wherein said matrix material is selected from the group consisting of lead and lead alloys.

Claim 4 (cancelled)

Claim 5 (currently amended): The pack-bonded material as in claim ~~4~~ 1, wherein said fibers are selected from the group consisting of nylon fibers, glass fibers, polymeric aramid fibers, aluminum oxide fibers, graphite fibers, alumina-type glass fibers, metallized fibers, polymeric fibers, and combinations thereof.

Claim 6 (original): The pack-bonded material as in claim 1, wherein said at least two layers of said matrix material is three layers and said at least one layer of said reinforcement material is two layers, such that a top layer, a bottom layer and a middle layer of said matrix material are provided.

Claim 7 (original): The pack-bonded material as in claim 6, wherein said top layer and said bottom layer are a first matrix material of a first thickness and said middle layer is a second matrix material of a second thickness.

Claim 8 (original): The pack-bonded material as in claim 7, wherein said first matrix material provides predetermined surface properties to the pack-bonded multiphase composite material.

Claim 9 (currently amended): A method of producing a composite material for a cell of a battery, comprising:

forming a stack of at least two layers of a matrix material interleaved with at least one layer of a substantially non-conductive reinforcement material wherein said matrix material and said reinforcement material are chemically dissimilar;

providing said stack to a pack-bonding process; and

pack-bonding said stack such that said reinforcement material is uniformly dispersed within said matrix material in a pack-bonding direction.

Claim 10 (original): The method according to claim 9, wherein said pack-bonding process comprises one or more cold-rolling processes.

Claim 11 (currently amended): The method according to claim 9, wherein said matrix material is selected from the group consisting of lead and lead alloys and said reinforcement material has ~~is~~ a plurality of non-conductive ~~large length-to-diameter ratio, low-density~~ fibers.

Claim12 (original): The method according to claim 11, wherein said fibers are selected from the group consisting of nylon fibers, glass fibers, polymeric aramid fibers, aluminum oxide fibers, graphite fibers, alumina-type glass fibers, metallized fibers, polymeric fibers, and combinations thereof.

Claim 13 (original): The method according to claim 9, wherein said stack forming step comprises:

providing three layers of said matrix material interleaved with two layers of said reinforcement material such that a top layer, a bottom layer and a middle layer of said matrix material are defined.

Claim 14 (original): The method according to claim 13, wherein said top layer and said bottom layer are a first matrix material of a first thickness, and said middle layer is a second matrix material of a second thickness.

Claim 15 (original): The method according to claim 14, wherein said first matrix material provides predetermined surface properties to the composite material.

Claim 16 (original): The method according to claim 9, wherein said stack forming step comprises:

interleaving a top continuous film of said matrix material, a first continuous film of said reinforcement material, a middle continuous film of said matrix material, a second continuous film of said reinforcement material, and a bottom continuous film of said matrix material.

Claim 17 (currently amended): A method of forming an expanded metal battery plate, comprising:

interleaving at least two layers of a matrix material with at least one layer of a substantially nonconductive reinforcement material, wherein said matrix material and said reinforcement material are chemically dissimilar;

pack-bonding said at least two layers of said matrix material and said at least one layer of said reinforcement material into a composite material, wherein said composite material includes said reinforcement material uniformly dispersed within said matrix material in a pack-bonding direction; and

expanding and cutting said composite material to form the expanded metal battery plate.

Claim 18 (original): The method according to claim 17, wherein said interleaving step comprises:

providing a top continuous film of said matrix material, a first continuous film of said reinforcement material, a middle continuous film of said matrix material, a second continuous film of said reinforcement material, and a bottom continuous film of said matrix material

Claim 19 (original): The method according to claim 18, wherein said first matrix material provides predetermined surface properties to the composite material.

Claim 20 (original): The method according to claim 17, wherein said pack-bonding step comprises one or more cold rolling processes.

Please add new claims 21-22 as follows:

Claim 21 (new): A composite material for use in a cell of a battery, comprising:

a substantially non-conductive reinforcement material layer; and,

first and second layers of electrically conductive material, the first layer being disposed on a first side of the reinforcement material layer, the second layer being disposed on a second side of the reinforcement material layer, wherein fibers in the reinforcement material layer are oriented in a predetermined direction by cold-rolling the first and second layers and the reinforcement material layer.

Claim 22 (new): A method for producing a composite material for a cell of a battery, comprising:

stacking a substantially non-conductive reinforcement material layer between first and second layers of electrically conductive material; and,

cold-rolling the stack in a first direction wherein fibers in the reinforcement material layer are oriented substantially in the first direction.